

APPENDIX E

WILDLIFE ENHANCEMENT PROJECT

PROJECT DESIGN PACKAGE FOR MITIGATION OF  
IMPACTS TO MULE DEER CRITICAL WINTER RANGE

TOWER RESOURCES COAL LOADOUT FACILITY

The following mitigation package is provided to Tower Resources in accordance with the following stipulation (attached to rights-of-way U-52810, Temporary Use Permit U-48027, and mineral sale borrow area) associated with the Tower Resource Coal Loadout Facility Development Project).

The holder shall mitigate impacts to mule deer critical winter range through enhancement of adjacent habitats. For every acre of surface disturbed habitat associated with the project under permit, the holder shall enhance one acre of adjacent critical winter range. Enhancement method shall be interseeding with browse and forb seed. Enhancement area, plant species and application rates shall be determined by the Authorized Officer. The project design shall be supplied to the holder 60 days prior to initiation of project work (October 15 through December 15). Expenses for enhancement need not exceed \$250 per acre.

Project Objective: Improve winter and spring forage for mule deer on critical winter range in close proximity to surface disturbance associated with the loadout facility.

Project Description: Treat identified areas (existing PJ chainings) on Map 1 as follows:

1. Remove all marked mature pinyon and juniper growing within delineated areas and hand seed disturbed basin.
2. Seed a total of thirteen acres (approximately 50 percent) of the treatment area with the forb-browse seed mixture listed below.

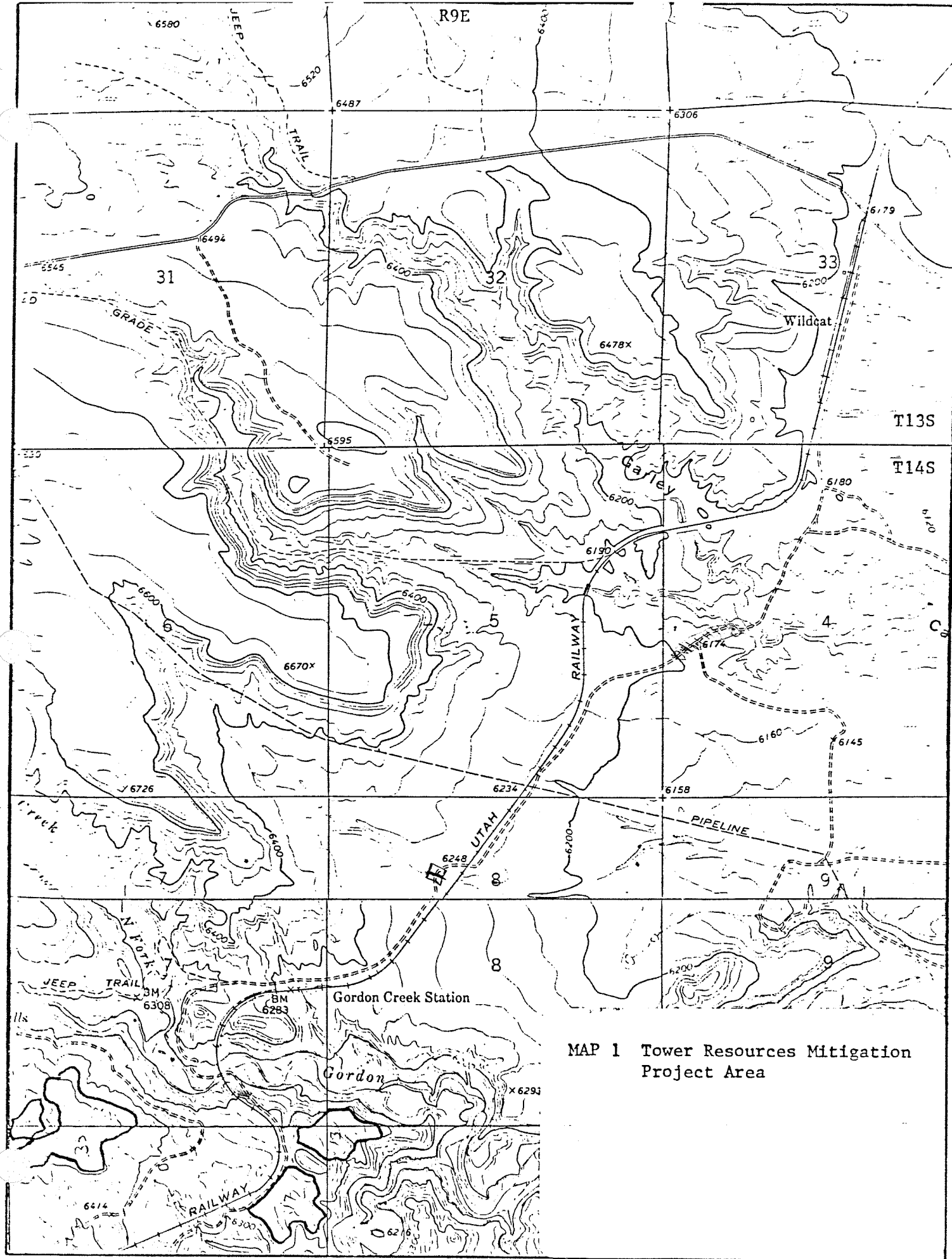
Treatment should be accomplished during the period from October 1 until October 30 or as otherwise mutually agreed on by operator and Authorized Officer. It is recommended that all work cease and equipment be removed October 20, the beginning of the regular deer hunt. The regular rifle deer hunt is October 20 to October 30.

Detailed Project Description and Methods

Equipment needed:

- 1 - D4 or similar size Crawler Tractor
- 1 - D7 or other 60-70 Drawbar horsepower Crawler Tractor
- 1 - Rangeland Drill equipped with depth bands (provided by BLM)\*
- 1 - Brushland Plow (provided by BLM)\*
- 2 - Track mounted seed Dribblers

\*See terms for equipment loan.



MAP 1 Tower Resources Mitigation Project Area

## Project Outline:

1. Using D7 Crawler tractor equipped with dozer blade and two track mounted seed dribblers, push down a limited number (less than 25) of marked mature pinyon and juniper trees within treatment areas. Hand seed each disturbed basin created by uprooting mature trees.
2. Using D7 Crawler tractor, pull brushland plow across treatment areas, strictly along the contour, to prepare suitable seed bed in which to drill seed. Adjust the pull angle of the plow to ensure all sodded grasses are turned over. The entire treatment area will be worked in a contour strip pattern in which 50 percent will be prepared for seeding while 50 percent is left undisturbed. The strip pattern should approximate 6 feet scalps separated by 6 feet strips of undisturbed ground.
3. Following seed bed preparation, use D4 Crawler tractor to pull rangeland drill along seed bed.
4. Hand seed all other disturbed sites associated with enhancement project (i.e., equipment load and unload sites).

Note: All hand seeding will include hand raking following application of seed.

5. Use the following listed species and application rates for seeding within the treatment area. All seed must meet or exceed specifications listed below or otherwise be approved by the Authorized Officer prior to use in the enhancement project. Special attention should be given to the requirement for germination and purity tests. Seed should be mixed by the supplier after seed samples have been drawn for testing.

SEED SPECIFICATIONSApplication Rates and Minimum PLS

<u>Species</u>	<u>Lbs/Acre (PLS)</u>	<u>Minimum PLS<sup>1</sup></u>
Antelope Bitterbrush	2.0	.8
Fourwing Saltbush	2.90	.5
Prostrate Kochia	.50	.5
Utah Serviceberry	.25	.9
True Mountain Mahogany	.35	.8
Small Burnet	2.0	.9
Common Sainfoin	2.0	.8
Alfalfa (Nomad/Ladak, Ranger)	2.0	.8
Total	12.0	

<sup>1</sup>Germination and Purity Tests conducted by Utah State Seed Lab are required on each lot of seed used. Provide copies of test results to Authorized Officer within 60 days following project completion date, October 20, 1984.

### Seed Source Requirement

Antelope Bitterbrush: Maybell variety or Utah seed collected at elevation between 6,000 and 6,800 feet and collected within 200 airline miles of project area.

Fourwing Saltbush, Collected at elevation between 5,500 and 6,800 feet and collected within 200 airline miles of project area.  
Serviceberry,  
True Mountain Mahogany:

### Terms For Use of Government Equipment

Tower Resources Coal Company agrees to hold the Bureau of Land Management free from liability for any claims against them for damages caused during the use of the government equipment.

Tower Resources Coal Company agrees to repair or replace damaged, lost, or stolen equipment while in his custody. Replacement will be made at fair market value of the equipment at the time of destruction or loss.

Tower Resources Coal Company agrees to do routine periodic maintenance on government equipment while in custody.

Tower Resources Coal Company accepts responsibility for transporting government equipment from Price BLM wareyard and returning it to the Price BLM wareyard by November 1, 1984.

The Bureau of Land Management does not make any warranties regarding the condition of equipment provided to Tower Resources Coal Company.

The Bureau of Land Management does not assume liability for damages of any kind resulting from the use of the equipment provided to Tower Resources Coal Company.

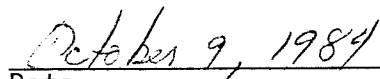
The Authorized Officer shall have a representative present during all phases of enhancement work. The representative, experienced with the use of these specialized pieces of equipment and this seeding method, will provide direction and guidance onsite for any problems that may occur.

The Tower Resources Mitigation Project was reviewed by the Utah Division of Wildlife resources. They approved of the project areas selected and strongly supported the project description and methods and provided input for the species selected for seeding.

Tower Resources Coal Company acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions set forth in this mitigation plan and that the implementation of the plan will satisfy the stipulation (as written on page 1) for rights-of-way U-52810, temporary use permit U-48027 and mineral sale borrow area.



Tower Resources Company Representative



Date

### III. DESCRIPTION OF THE AFFECTED ENVIRONMENT

#### A. Area Description

The proposal area is located approximately 7 miles northwest of Price, Utah adjacent to state highway U-139.

#### B. Environmental Elements

The area has a semiarid climate with precipitation averaging 12 to 14 inches per year. The average annual temperature is 46° F.

The proposal area is located at an elevation of 6100 feet in a gently sloping (3-7%) sagebrush flat.

Two soils were identified in the proposal area through an order III soil survey conducted by the Soil Conservation Service in 1978. The predominant soil type is a very deep well drained sandy loam. Topsoil depth (A11 and A12 horizons) is approximately 7 inches. Organic matter content is low in the surface layer and the erosion hazard is low for the undisturbed site. The other soil identified in the proposal area is a very deep well drained loam. Topsoil depth (A1 horizon) is approximately 3 inches. Less than 10 acres of this soil type is present.

Air quality in the area is good within fugitive dust being the major contributor to air quality degradation. No live water is present in the proposal area.

Vegetation consists mainly of sagebrush with a few miscellaneous grasses including Indian ricegrass and curly grass. This is considered critical deer winter habitat.

The major wildlife species that inhabit the area include mule deer, elk, coyotes, cottontail, rabbits, gray fox, bald eagles, golden eagles, small rodents and reptiles.

The proposal area is located in VRM Class IV. Management guidelines for this class state changes in form, line, color and texture may subordinate the original composition and character of the landscape, but must reflect what could be a natural occurrence.

## 1. Mandatory Elements

### a. Threatened or Endangered Plants and Animals

There are no known threatened or endangered plants that inhabit the area. Two species of birds, the endangered bald eagle and protected golden eagle are known to use this area; however, no known nesting sites have been identified in the proposal area.

### b. Wetlands

The proposal area has not been designated a wetland.

### c. Prime or Unique Farmland

The proposal area has not been designated prime or unique farmland.

### d. Alluvial Valley Floors

The proposal area has not been designated an alluvial valley floor.

### e. Wilderness

No public land adjacent or near the proposed right-of-way is subject to Wilderness Interim Management Policy.

### f. Areas of Critical Environmental Concern

The proposal area has not been designated an area of critical environmental concern nor have any areas in the vicinity of the proposal.

### g. Cultural Resources

A cultural resource inventory was conducted for the proposal area. There were no significant findings (See attached report).

## C. Land Use Elements

### 1. Site Data

#### a. Land Ownership

Master title plats disclose that both the surface and mineral estates are owned by the Federal Government and managed by the BLM.



b. Rights Granted in the Immediate Area

U-32293 - 10 foot wide telephone right-of-way.

U-20384 - 50 foot wide powerline right-of-way.

SL-015794 - 200 foot wide railroad right-of-way.

U-29170 - SLUP, SLB&M T.13 S., R. 9 E., Section 33,  $E\frac{1}{2}E\frac{1}{2}SE\frac{1}{4}NW\frac{1}{4}$ ,  $W\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$ ,  $W\frac{1}{2}SE\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$ ,  $NE\frac{1}{4}NE\frac{1}{4}SW\frac{1}{4}$ ,  $W\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}SE\frac{1}{4}$ .

c. Pending Applications

U-49754 - Right-of-way, SLB&M, T. 13 S., R. 9 E., Section 33,  $E\frac{1}{2}E\frac{1}{2}SE\frac{1}{4}NW\frac{1}{4}$ ,  $W\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$ ,  $W\frac{1}{2}SE\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$ .

U-33746 - State exchange application,  $W\frac{1}{2}$  Section 33.

d. Land Classification

Subject land has been classified for multiple use management under serial number U-4096 dated March 5, 1968.

e. Access

Both legal and physical access are via State Highway 139, also known as county road number 6573.

2. Existing Land Uses

Land adjacent to the proposed coal loadout and storage facility is being used for coal storage, weighing and loading and a training center and warehouse in connection with the Beaver Creek Coal Mine. Other land adjacent to the site is being used for wildlife habitat, grazing and incidental recreational purposes. The proposal area is located within the Consumers Sheep Allotment. Mr. Steve Stamatakis is authorized to graze 510 AUMs on the allotment.

3. Planning Recommendations, Consultations and Other Considerations

a. BLM-MFP Planning Recommendations

The proposal is located in the Wattis Planning Unit for which an approved URA-MFP has been written. The planning recommendations made in this document support the proposed land use.

b. Other Federal Agency Plans for the Proposal Area

None are known

c. State Plans

The state of Utah has applied to exchange the W $\frac{1}{2}$  of Section 33 T. 13 S., R. 9 E., as part of the Arches State Exchange (U-33746). The application was filed on June 17, 1976. Opposition to this exchange has been voiced by the Carbon County board of Commissioners and the Utah Division of Wildlife Resources.

d. Local Plans

Carbon County has placed this area in a mining and grazing zone (M&G-1) in their revised zoning resolution. The proposed use would be compatible with zoning objectives.

IV. ENVIRONMENTAL CONSEQUENCES

A. Alternative No. 1

1. Anticipated Impacts

a. Air Quality

Impacts to air quality would be an increase in particulate emissions from stockpiled topsoil and coal. Increased emission levels from stockpiled topsoil should be low and for a short duration. Blowing dust from stockpiled coal could cause a significant increase in particulate emissions if not adequately controlled.

b. Soils

Soil productivity would be lost on approximately 73 acres for at least 30 years or until the areas were successfully reclaimed. An increase in wind and water erosion would occur on those areas where vegetation is removed during construction and prior to having an adequate cover of gravel or other surface material.

Concentrations of suspended sediments would increase temporarily severalfold if high intensity rainfall occurs causing sediment retaining structures to fail.

c. Vegetation

Vegetation would be removed and destroyed on approximately 73 acres. Vegetation productivity would be lost for the life of the project. If reclamation were successful, vegetative productivity could be greatly improved.

#### d..Wildlife

The proposed project would significantly impact wintering deer on and adjacent to the project area. Impacts, direct and indirect, would be associated with both construction and operation of the facility. Direct impacts are those resulting from physical loss of critical winter habitat, and would completely displace current deer use. Seventy-three acres would be impacted in this way and would displace approximated 7 deer each year for the life of the facility. Indirect impacts are those resulting from disturbance to adjacent critical winter habitat caused by construction and operation of the facility. An estimated 80% of current deer use (8 deer) would be displaced from 79 acres adjacent to the proposed facility each year of operation.

#### e. Grazing

The permittee would loose approximately 8 AUMs of grazing capacity due to a decrease in public land acreage available for livestock grazing within the allotment.

#### f. Landscape Character

Landscape character would be altered due to removal of vegetation, leveling of this area and placement of coal piles and loading equipment. However, this impact would not be significant in light of coal loadout equipment and piles presently onsite. There is also a warehouse, training center, fuel tanks, scalehouse and miscellaneous equipment located on public land adjacent to the proposal area, under Special Land Use Permit U-29170.

### 2. Possible Mitigating Measures

#### a. Air Quality

Measures to control fugitive dust including watering and the use of chemical suppressants should be employed to keep particulate emission levels down. Also all disturbed areas not required for operation or maintenance of the facility should be seeded.

#### b. Soils

Before the site is constructed a plan to protect the hydrologic balance including sedimentation ponds, dams, diversion ditches, etc. should be designed. Also, all topsoil should be removed, stockpiled and protected for later use when reclamation operations begin. Stockpiled topsoil should be protected by seeding with a quick growing cover plant and a permanent perennial plant.

c. Vegetation

By seeding all areas not required for operation or maintenance of the facility and seeding the entire site when the right-of-way terminates, loss of vegetation would almost totally be mitigated. Also use of the recommended species over the present sagebrush cover would greatly improve the productivity and habitat.

d. Landscape Character

All structures located on the right-of-way could be painted a nondestructive color to help blend in with the existing landscape.

e. Other Mitigating Measures

Appendix A lists the terms and conditions developed from the above mentioned measures in addition to others. This will be attached to the right-of-way grant to help mitigate environmental impacts.

3. Unavoidable Adverse Impacts

Loss of critical deer winter habitat and the displacement of approximately 8 deer cannot be avoided if the facility is built where proposed. Also the reduction in grazing capacity for the permittee of approximately 8 AUMs cannot be avoided.

4. Irretrievable or Irreversible Commitment of Resources

None

PROJECT DESIGN PACKAGE FOR MITIGATION OF  
IMPACTS TO MULE DEER CRITICAL WINTER RANGE

ANDALEX RESOURCES COAL LOADOUT FACILITY

The following off-site mitigation packages are provided to Andalex Resources by the BLM in coordination with the Utah Division of Wildlife Resources to meet a mitigation requirement of the Utah Division of Oil, Gas and Mining for the permitting of the Wildcat loadout facility. Two options are presented. Either option will meet the requirement to: mitigate impacts to 15 acres of critical winter range which has been taken out of production as mule deer critical winter range.

OPTION 1 - BROWSE INTERSEEDING

Project Objective: Improve winter and spring forage for mule deer on critical winter range in close proximity to surface disturbance associated with the loadout facility.

Project Description: Treat identified area (existing PJ chainings) on Map 1 as follows:

Seed a total of fifteen acres (approximately 50 percent) of the treatment area with the forb-browse seed mixture listed below. Treatment should be accomplished during the period from October 15 until November 15 or as otherwise mutually agreed on by operator and authorized officer.

Project Outline:

1. Complete an archaeological clearance on 30-acre project area.
2. Using D7 Crawler tractor with dozer blade, pull brushland plow across treatment areas, strictly along the contour, to prepare suitable seed bed in which to drill seed. Adjust the pull angle of the plow to ensure all sodded grasses are turned over. The entire treatment area will be worked in a contour strip pattern in which 50 percent will be prepared for seeding while 50 percent is left undisturbed. The strip pattern should approximate 6 feet scalps separated by 6 feet strips of undisturbed ground.
3. Following seed bed preparation, use D4 Crawler tractor or suitable rubber-tired implement to pull rangeland drill along seed bed.
4. Hand seed all other disturbed sites associated with enhancement project (i.e., equipment load and unload sites).

Note: All hand seeding will include hand raking following application of seed.

5. Use the following listed species and application rates for seeding within the treatment area. All seed must meet or exceed specifications listed below or otherwise be approved by the authorized officer prior to use in the enhancement project. Special attention should be given to the seed source requirement.

Equipment needed:

- 1 - D4 or similar size Crawler tractor
- 1 - D7 or other 60-70 Drawbar horsepower Crawler tractor
- 1 - Rangeland drill, equipped with depth bands (provided by BLM)\*
- 1 - Brushland plow (provided by BLM)\*
- 2 - Track-mounted seed dribblers

\*See terms for equipment loan.

SEED SPECIFICATIONS

<u>Species</u>	<u>Lbs/acre (PLS)</u>
Mtn. big sage	.5
Antelope bitterbrush <sup>1</sup>	2.0
Fourwing saltbush <sup>1</sup>	3.0
Prostrate Kochia	.50
Utah serviceberry <sup>1</sup>	.5
True mountain mahogany <sup>1</sup>	.5
Whitestem rubber rabbitbrush	1.0
Small burnet	2.0
Common sainfoin	2.0
Alfalfa (Nomad/Ladak, Ranger)	2.0
Total	12.0

<sup>1</sup>Seed source requirement:

Antelope bitterbrush: Maybell variety or Utah seed collected at elevation between 6,000 and 6,800 feet.

Fourwing saltbush: Rincon variety or seed collected at elevation between 5,500 and 6,800 and collected within 200 airline miles of project area.

Utah serviceberry, True mtn. mahogany: Collected at elevation between 5,500 and 6,800 feet and collected within 200 airline miles of project area.

### Terms for Use of Government Equipment

Andalex Resources Coal Company agrees to hold the Bureau of Land Management free from liability for any claims against them for damages caused during the use of the government equipment.

Andalex Resources Coal Company agrees to repair or replace damaged, lost, or stolen equipment while is their custody. Replacement will be made at fair market value of the equipment at the time of destruction or loss.

Andalex Resources Coal Company agrees to do routine periodic maintenance on government equipment while in custody.

Andalex Resources Coal Company accepts responsibility for transporting government equipment from Price BLM wareyard and returning it to the Price BLM wareyard within 10 days following project completion.

The Bureau of Land Management does not make any warranties regarding the condition of equipment provided to Andalex Resources Coal Company.

The Bureau of Land Management does not assume liability for damages of any kind resulting from the use of the equipment provided to Andalex Resources Coal Company.

The authorized officer shall have a representative present during all phases of enhancement work. The representative, experienced with the use of these specialized pieces of equipment and this seeding method, will provide direction and guidance onsite for any problems that may occur.

### OPTION 2 - WATER CATCHMENT INSTALLATION

**Project Objective:** Improve distribution of mule deer and elk on critical winter range and thereby reduce pressure on browse in highly concentrated use areas. The guzzler will serve to increase use in the area of the catchment in fall, winter and spring and reduce use on the adjacent critical winter range.

This mitigation project will also benefit a large diversity of other game and nongame wildlife species dependant on free water.

**Project Description:** Place water catchment device in location shown on Map 1. Recommended catchment design is included as Attachment 1. Minimum specifications for catchment design are listed below.

### Catchment Specifications

2,100 gallon storage capacity, heavy construction top exterior drinking ramp, top and ramp black (for greater solar radiation).

#### Project Outline:

1. Excavate a circular basin 16 inches deep and 16 feet in diameter.
2. Assemble 4 quarter panels to make basin or storage tank, position and level.
3. Assemble 4 quarter panels to make top and set in place.
4. Excavate an area about 4 feet from catchment to set trough and connect to catchment with 1 1/2-inch insulated PVC pipe.
5. Bolt rib caps on top, fill in around catchment and hand seed disturbed soil.

Installation requires about 34 work hours to complete. The archaeological clearance for this project can be completed by the BLM.

#### Equipment and manpower needed:

Hand tools (shovels, breaker bar, 2 - 1/2 inch ratchet sets)  
 1 - caulking gun  
 1 - full size pickup - 1/2 or 3/4 ton  
 3 - laborers

For specific installation instructions, see attached brochure.  
 (Note: Installation instructions are for a 1,000-gallon unit, but installation for the 2,100-gallon unit is very similar.)

The authorized officer shall have a representative present during project construction. The representative will select the exact site location and assist in the construction.

A representative of Andalex Resources acknowledges, by signing below, that he/she understands and accepts the terms and conditions set forth in this mitigation plan and that the implementation of the plan will satisfy the offsite mitigation stipulation for the permitting of the loadout facility.

  
 Andalex Resources Company Representative

4.20.89  
 Date



